

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference B02/0434PC	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/EP2004/002121	International filing date (day/month/year) 03.03.2004	Priority date (day/month/year) 04.03.2003
International Patent Classification (IPC) or national classification and IPC		
Applicant BASF AKTIENGESELLSCHAFT		

1.	This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.																								
2.	This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.																								
3.	This report is also accompanied by ANNEXES, comprising: <ul style="list-style-type: none"> a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows: <ul style="list-style-type: none"> <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions). 																								
4.	This report contains indications relating to the following items: <table border="0"> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
<input checked="" type="checkbox"/>	Box No. I	Basis of the report																							
<input type="checkbox"/>	Box No. II	Priority																							
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability																							
<input type="checkbox"/>	Box No. IV	Lack of unity of invention																							
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement																							
<input type="checkbox"/>	Box No. VI	Certain documents cited																							
<input type="checkbox"/>	Box No. VII	Certain defects in the international application																							
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application																							

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/002121

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-10 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. 1-9 _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* _____ received by this Authority on _____
- nos.* _____ received by this Authority on _____
- ☒ the drawings:
- sheets 1/1 _____ as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/002121

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	2-4, 8, 9	YES
	Claims	1, 5-7	NO
Inventive step (IS)	Claims		YES
	Claims	1-9	NO
Industrial applicability (IA)	Claims	1-9	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
<p>The present report makes reference to the following documents:</p> <p>D1: GB 1 190 682 A (SOCIETÀ ITALIANE RESINE S.P.A.) 6 May 1970 (1970-05-06)</p> <p>D2: FR 2 492 367 A (BLAZHIN JURY) 23 April 1982 (1982-04-23)</p> <p>D3: EP 1 063 221 A (BASF AG) 27 December 2000 (2000-12-27)</p> <p>D4: WO 99/21818 A (ROSENBERG MICHAEL; SCHWEERS ELKE (DE); TICONA GMBH (DE); SIEVERS WERN) 6 May 1999 (1999-05-06).</p> <p>The present application relates to a method for producing highly concentrated gaseous formaldehyde, the molar ratio of CH₂O : H₂O being greater than or equal to 0.6, from an aqueous formaldehyde solution by evaporating at least part of said solution, the aqueous formaldehyde solution being warmed to an evaporation temperature T and the gas phase formed being drawn off, the following applying in respect of the evaporation temperature:</p> <p>$T[^{\circ}\text{C}] > T'_{\min}[^{\circ}\text{C}]$,</p> <p style="text-align: right;">/...</p>			

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

with $T'_{\min} = A + B \times (c/100) + C \times (c/100)^2 + D \times (c/100)^3$
and $A = +68.759$; $B = +124.77$; $C = -12.851$; $D = -10.095$,
 c being the actual water content of the aqueous
formaldehyde solution during evaporation, expressed
in wt.% and being between 20 wt.% and 90 wt.%.

The molar ratio of $\text{CH}_2\text{O} : \text{H}_2\text{O}$, being greater than or
equal to 0.6, corresponds to approximately 0.38 Mol CH_2O
and 0.62 Mol CH_2O , corresponding in turn to an
approximately 50%-aqueous CH_2O solution.

Furthermore, with a c of 20 wt.%, $T'_{\min} [^\circ\text{C}]$ is
approximately 93.1°C .

Proceeding from the above calculations, and from the
fact that according to claim 1 of the present application
formaldehyde solutions are evaporated under the same
conditions, the subject matter of claim 1 lacks novelty
in the light of D1 and D2 (see the passages cited in
the ISR).

Claim 9 appears to differ from D3 and D4 in that highly
concentrated gaseous formaldehyde is used in the
production of trioxane etc. However, it is the opinion
of the IPEA that, in the light of D3 and D4 (see the
passages cited in the ISR), the use of highly
concentrated gaseous formaldehyde does not involve an
inventive step.

/...

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/002121

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

Dependent claims 2-8 contain no features which, combined with the features of any claim to which they refer, meet the PCT requirements for novelty and/or inventive step.